

TEAM REBEL DESIGN

ALEXMOS SIMPLEBGC USER MANUAL

VO.7A

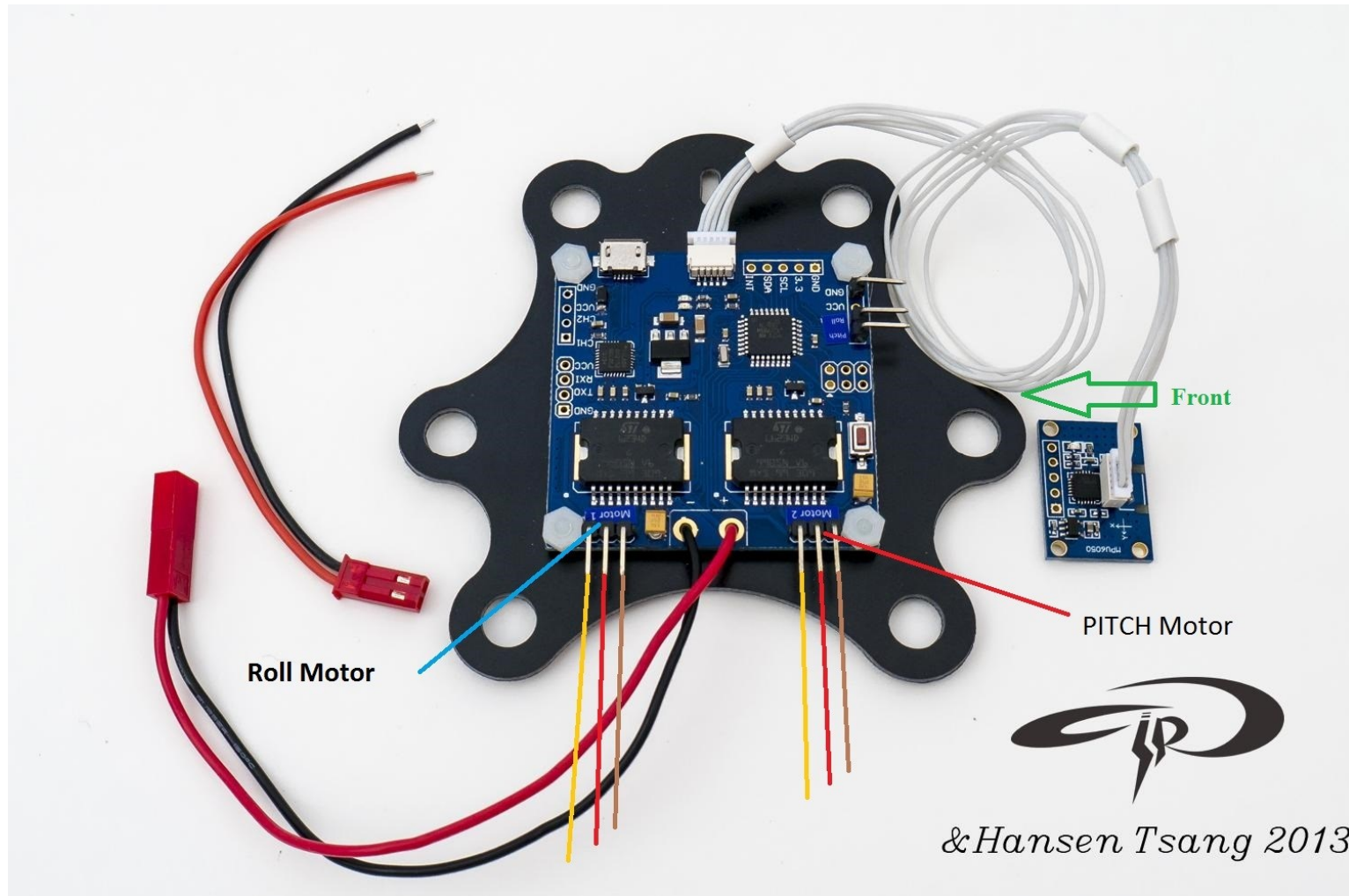


Preface

- Beholder, Beholder Plus, and Beholder Lite with BaseCam® Simple BGC are Ready-To-Go (RTG) packages.
- RTG gimbals will have their proper profile files included in TRD_SBGC_profile.zip downloadable on our website. (The vendor you purchased from shall also have this link in their product page accordingly.)
 - The profile files will be following such naming pattern: prodname board date.Profile
 - Eg, Beholder 3rd 328p 20130927.profile indicates that the given profile is for Beholder gimbal 3rd axis extension board made on 2013-09-27. (328p indicates Atmel mega 328p based controller board. Does not matter at the moment)
 - All RTG gimbals are preconfigured/calibrated with reference sensor for testing. It is strongly suggested to do a local calibration before use.
- All the current Team Rebel Design brushless controller boards (up to 20130927) are compatible to both SimpleBGC and OSBruGi. TRD SimpleBGC releases are all encoded with authorized SGBC bootloader. Warranty will be void if, but not limited to, upload unauthorized firmware, erase bootloader, modify the controller with 3rd part tools.
- This user manual will only cover basic configuration process for TRD brushless controller. More information about advanced tuning, if interested, please refer to SBGC official manual. <http://www.simplebgc.com/eng/downloads/>

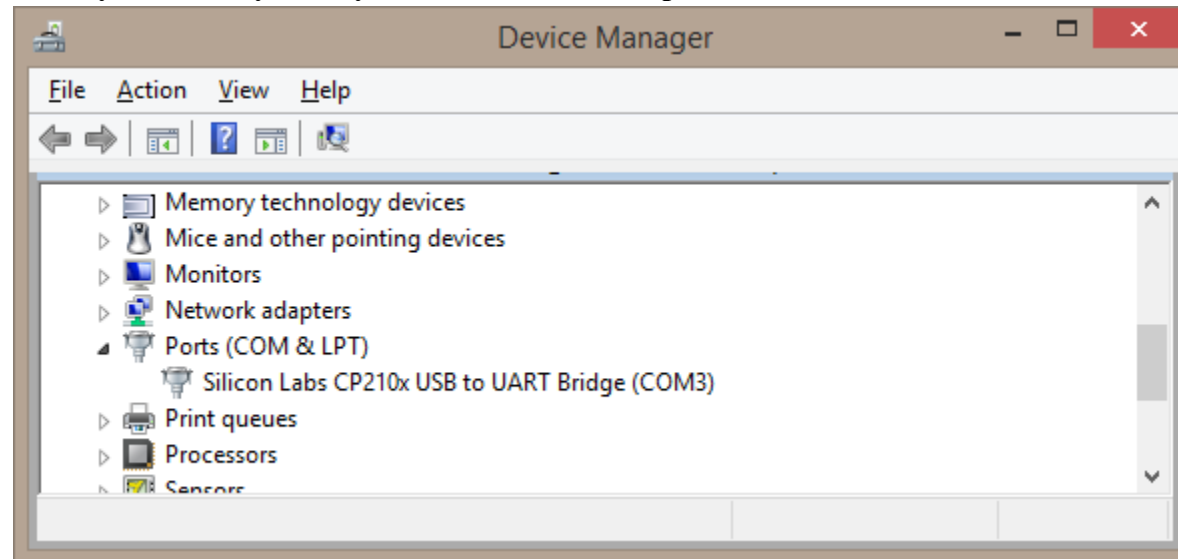
Wiring Diagram

Beholder Lite:

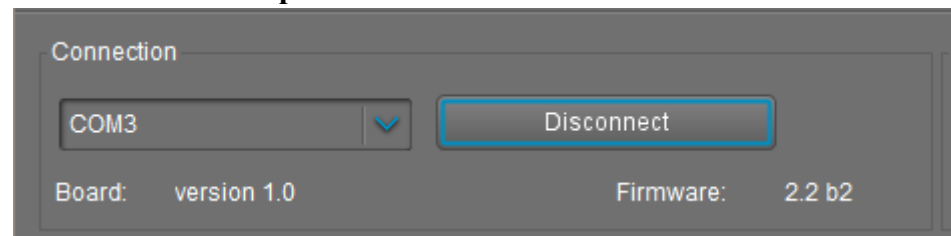


Connect to SimpleBGC GUI

1. Current gimbal controllers are shipped with v2.2b2 preinstalled. You may find the GUI downloadable thru the link.
http://www.simplebgc.com/files/v10/SimpleBGC_GUI_2_2b2.zip
2. For some computer that does not automatically install driver, you may find the correct driver to CP21x2 here.
<http://www.silabs.com/products/mcu/pages/usbtouartbridgevcdrivers.aspx>
3. Once driver is correctly installed, you may find the correct com port for the controller here in Windows Device Manage



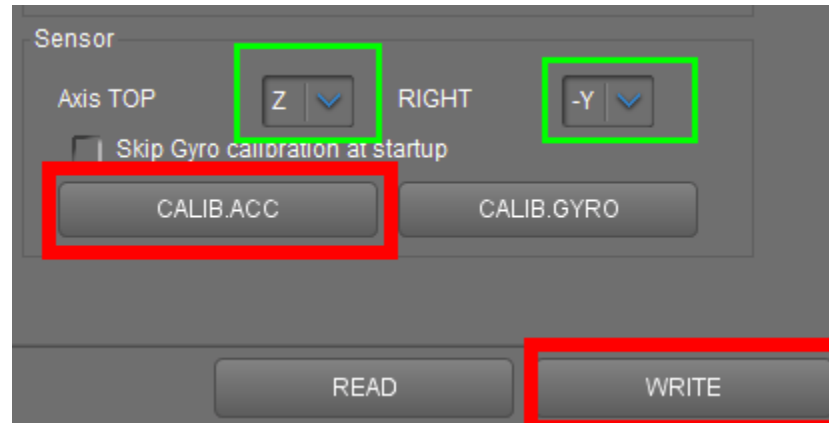
4. In SimpleBGC Gui, choose correct com comport and “connect”



Sensor Calibration:

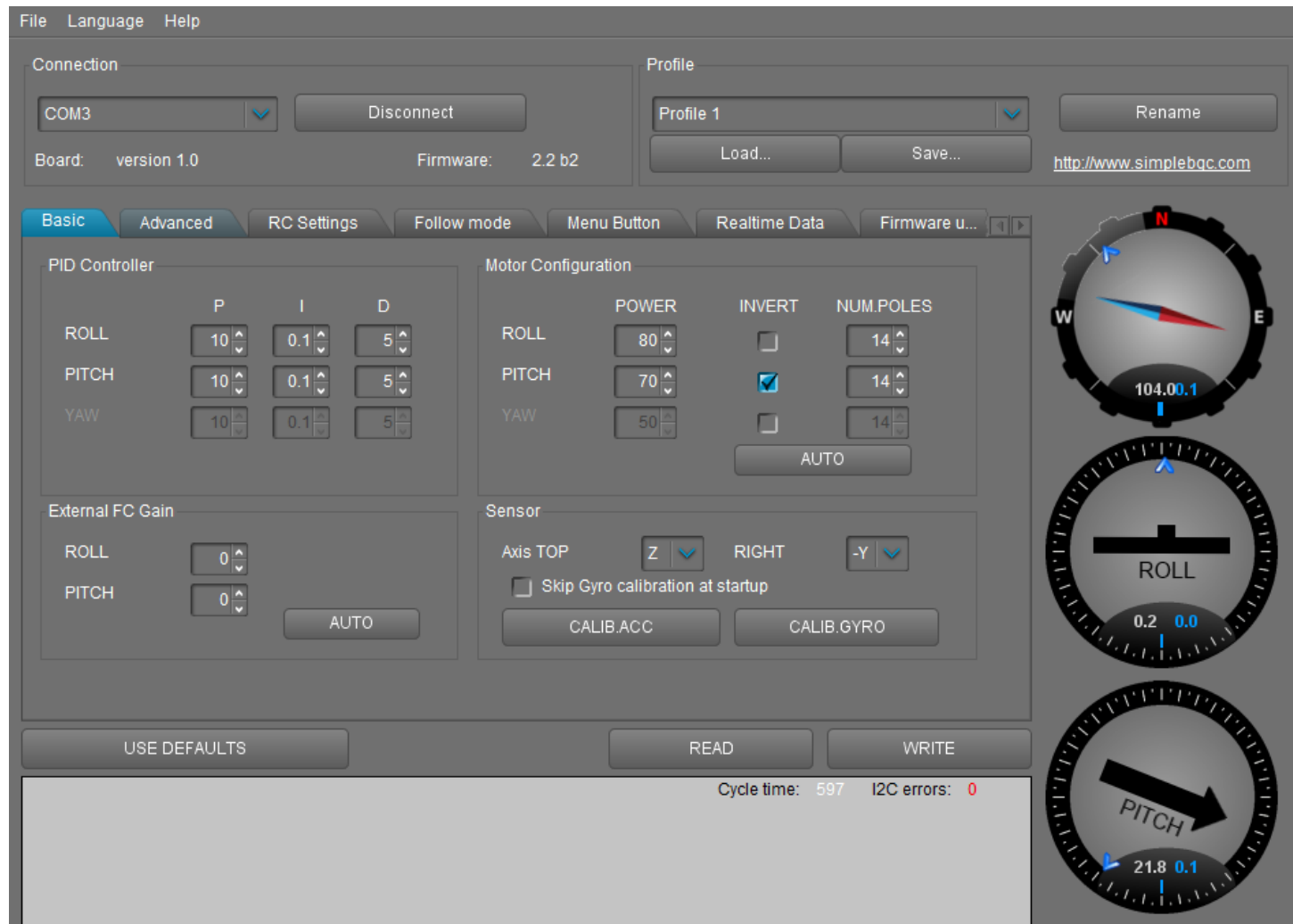
It is strongly suggested user to do accelerometer calibration before use.

1. In Basic tab find sensor box
2. Make sure the green box are selected as shown below
3. Make sure the accelerometer is on a flat and level surface
4. Leave sensor still and click CALIB.ACC
5. The green LED on controller board will flash for a few seconds then stop(finished)
6. Click “write” to make sure the calibration data is saved



Default Settings

Basic tab



Advanced tab

The screenshot shows the 'Advanced' tab of a flight controller configuration interface. The top navigation bar includes tabs for 'Basic', 'Advanced' (selected), 'RC Settings', 'Follow mode', 'Menu Button', 'Realtime Data', and 'Firmware u...'. The main content area is divided into several sections:

- AHRS**: Contains 'Gyro trust' set to 100 and an unchecked checkbox for 'Accelerations compensation'.
- Timings**: Contains 'Serial port speed' set to 115200 and 'PWM frequency' set to HIGH (silent).
- Motor outputs**: Contains three dropdown menus: 'ROLL' set to PITCH out, 'PITCH' set to ROLL out, and 'YAW' set to disabled.
- Sensor**: Contains 'Gyro LPF' set to 0 and two unchecked checkboxes: 'Gyro high sensitivity' and 'I2C pullups enable'.
- RC Sub-Trim**: Contains four trim sliders (ROLL, PITCH, YAW, Expo curve) all set to 0, an 'AUTO' button, and 'Deadband around center' set to 15. A graph shows a linear blue line from bottom-left to top-right.

At the bottom, there are three buttons: 'USE DEFAULTS', 'READ', and 'WRITE'.

RC Setting tab

The screenshot shows the 'RC Settings' tab of a software interface. It is divided into three main sections: 'RC Input Mapping', 'Command Assignment', and 'RC Control'. The 'RC Input Mapping' section has a 'SOURCE' dropdown set to 'PWM' and three rows for 'ROLL', 'PITCH', and 'YAW', each with a channel selection dropdown and a polarity selector. The 'Command Assignment' section has three slots for 'LOW', 'MID', and 'HIGH' commands, each set to 'no action'. The 'RC Control' section is a table with columns for 'MIN.ANGLE', 'MAX.ANGLE', 'ANGLE MODE', 'LPF', 'SPEED MODE', and 'SPEED' for 'ROLL', 'PITCH', and 'YAW'. At the bottom are 'USE DEFAULTS', 'READ', and 'WRITE' buttons.

	MIN.ANGLE	MAX.ANGLE	ANGLE MODE	LPF	SPEED MODE	SPEED
ROLL	-30	30	☒	3	☐	10
PITCH	-25	90	☒	3	☐	10
YAW	-45	45	☒	3	☐	10